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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/828,994   | 04/21/2004  | Stephan Bolz         | 071308.0547         | 6772             |
| 31625  | 7590        | 06/14/2005           | EXAMINER            |                  |
| BAKER BOTTS L.L.P.<br>PATENT DEPARTMENT<br>98 SAN JACINTO BLVD., SUITE 1500<br>AUSTIN, TX 78701-4039 |             |                      | CHAN, EMILY Y       |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2829                |                  |

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|                              |                                      |                                      |  |
|------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/828,994 | <b>Applicant(s)</b><br>BOLZ, STEPHAN |  |
|                              | <b>Examiner</b><br>Emily Y. Chan     | <b>Art Unit</b><br>2829              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5 and 6 is/are rejected.
- 7) ☒ Claim(s) 2,4 and 7-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4-21-04 and 1-25-05</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claims 3 and 6 are objected to because of the following informalities: in claims 3 and 6, it is not defined where the upper, the middle and the lower voltage threshold are predefined. Are they predefined in the digitizing circuit? Also the recited battery voltage potential lacks clear antecedent basis because the parent claims 1 and 5 never mention the battery voltage potential respectively. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al US Patent No. 6,666,090 in view of Garrard et al EP Patent Application No. 0973258..

With respect to claims 1 and 5, Mori et al ('090) expressly disclose a method and a vibrating gyroscope for sensing the rotational behavior of a motor vehicle with an analytical circuit (see Figs 1-13) as claimed, comprising:

an electromagnetic sensor (see fig. 1, sensor circuit 200) with external excitation by means of a constant current ( see Fig. 12, current driver 703),  
a transconductance amplifier (see Fig. 1, amplifier circuit 430),

a digitizing circuit (see Fig. 2, signal processing determination circuit 630) comprising a Schmitt trigger and, in parallel with it, a voltage comparator (comparator 633) to both of which the output signal of the transconductance amplifier and the reference voltage are supplied, and a logic circuit (comprehensives determination circuit 650).

Mori et al ('090) do not disclose that their digitizing circuit outputs a hysteresis-affected output signal and that their voltage comparator outputs a hysteresis-free output signal.

Garrard et al ('258) disclose an apparatus(see Figs.3-5) and a method of using hysteresis in an electronic circuit to discriminate in the presence of noise, threshold crossings of an oscillating signal. Garrard et al ('258) exclusively teach a voltage comparator for outputting a hysteresis signals (43,53) as claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate the teaching of outputting and using the hysteresis signals as taught by Garrard et al ('258) into Mori et al ('090)'s circuit for the purpose of sensing and discriminating the threshold crossings of the crankshaft of a motor vehicle as disclosed by Garrard et al ('258) (see Col. 11, lines 5-11).

With respect to claims 3 and 6, Mori et al ('090) disclose that their sensor determination circuit 610, a driving determination circuit 620 and a power supply determination circuit 640, all comprising a comparator respectively for detecting when the reference voltage exceeds the upper voltage threshold (upper-limit reference

voltage) and when the reference voltage exceeds the lower voltage threshold ( lower-limit reference voltage) (see Fig. 2).

***Allowable Subject Matter***

3. Claims 2, 4 and 7-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 2 is indicated allowable because the prior art in the record do not disclose the logic circuit comprising two inverters and four NAND gates and the specific connection among the two inverters and four NAND gates. Claims 4 and 7 are indicated allowable because the prior art in the record do not disclose or suggest all the elements in combination recited in the claims 1-4 and 5-7 respectively. Specifically, the prior art does not teach the analytical circuit further comprising a voltage divider and a voltage comparator comparing the reference voltage with a middle voltage threshold. Claims 8-9 are dependent on claim 7 and are indicated allowable accordingly.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Qgawa et al US Patent No. 4,931,940 disclose a rotational position detector comprising a comparator for comprising the increase/decrease pattern with a predetermined increase/decrease pattern and develops an output for controlling the operation of the internal combustion engine (see ABSTRACT).

Kniss et al US Patent No. 4,866,298 disclose a circuit arrangement for evaluating the signal of an inductive sensor.


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Y. Chan whose telephone number is 571-272-1956. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EC  
6-12-05

  
VINH NGUYEN  
PRIMARY EXAMINER  
A.U. 2829  
06/13/05